

Leo R. Beus (*pro hac vice*)  
Michael K. Kelly (*pro hac vice*)  
Christine N. Jones (*pro hac vice*)  
Daniel J. Anderson (*pro hac vice*)  
BEUS GILBERT MCGRODER PLLC  
Attorneys at Law  
701 North 44<sup>th</sup> Street  
Phoenix, Arizona 85008-6504  
Telephone: (480) 429-3000 | Facsimile: (480) 429-3001  
Email: lbeus@beusgilbert.com | mkelly@beusgilbert.com  
cjones@beusgilbert.com | danderson@beusgilbert.com

Allan Steyer (State Bar No. 100318)  
Suneel Jain (State Bar No. 314558)  
STEYER LOWENTHAL BOODROOKAS  
ALVAREZ & SMITH LLP  
235 Pine Street, 15th Floor  
San Francisco, California 94104  
Telephone: (415) 421-3400 | Facsimile: (415) 421-2234  
E-mail: asteyer@steyerlaw.com | sjain@steyerlaw.com

*Attorneys for Defendant and Counterclaimant*  
*Swarm Technology LLC*

**UNITED STATES DISTRICT COURT**

**NORTHERN DISTRICT OF CALIFORNIA**

**SAN FRANCISCO DIVISION**

JUNIPER NETWORKS, INC. and  
APSTRA, INC.,

Plaintiffs,

v.

SWARM TECHNOLOGY LLC,

Defendant.

SWARM TECHNOLOGY LLC,

Counterclaimant,

v.

JUNIPER NETWORKS, INC. and  
APSTRA, INC.,

Counterdefendant.

Case No. 5:20-cv-03137-JD

**MOTION FOR LEAVE TO FILE  
AMENDED COUNTERCLAIMS  
FOR PATENT INFRINGEMENT OF  
U.S. PATENT NOS. 9,852,004 AND  
10,592,275 AGAINST JUNIPER  
NETWORKS, INC. AND APSTRA,  
INC.**

**DEMAND FOR JURY TRIAL**

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Defendant/Counterclaimant Swarm Technology, LLC (“Swarm”) respectfully moves the Court for leave to file the attached redlined Answer and First Amended Counterclaims (the “FACC”) (Exhibit 1). As a courtesy, a clean copy of the FACC is also attached as Exhibit 2. This Motion for Leave to file the FACC (the “Motion”) is made pursuant to Fed. R. Civ. P. 15(a)(2) and this Court’s August 1, 2022, Order (Doc. 92, the “Order”).

## **I. PROCEDURAL HISTORY**

Swarm filed its Answer and compulsory Counterclaims<sup>1</sup> for Patent Infringement against Plaintiff/Counterdefendant Juniper Networks, Inc. (“Juniper”) on January 5, 2022, asserting infringement of Claims 1-10 and 12-14 of U.S. Patent No. 9,146,777 (the “’777 Patent”), Claims 1-3 and 7-12 of U.S. Patent No. 9,852,004 (the “’004 Patent”), and Claims 1-4, 6-7, and 9-17 of U.S. Patent No. 10,592,275 (the “’275 Patent”) (collectively, the “Patents-in-Suit”) (Doc. 64, the “Answer”). The infringed claims are referred to herein collectively as the “Asserted Claims.” On February 11, 2022, Juniper filed a motion to dismiss Swarm’s counterclaims pursuant to Fed. R. Civ. P. 12(b)(6), contending the Patents-in-Suit were ineligible under 35 U.S.C. § 101 (Doc. 75). On August 1, 2022, the Court granted Juniper’s motion to dismiss with respect to the ’777 Patent and simultaneously granted Swarm leave to file amended counterclaims. (Order at 11). The Court also granted Juniper’s motion to dismiss with respect to the ’004 and ’275 Patents, without prejudice, and granted Swarm leave to file this Motion “as developments in the District of Arizona or on appeal warrant.” (Order at 2).

Such developments in the District of Arizona have now materialized. To wit, on August 22, 2022, the Arizona Court concluded that, “the proposed [First Amended Complaint] contains sufficient factual allegations to survive dismissal under § 101 at the Rule 12(b)(6) stage. Accordingly, [Swarm’s] motion for leave to amend is granted.” (Doc 95-1 at 2). Swarm

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<sup>1</sup> Swarm acknowledges the Court’s concern that a “lateral appeal to a sister district court is not appropriate, or consistent with the fair and efficient administration of justice,” (Order at 2), but respectfully notes the counterclaims asserted in the instant case are compulsory under Fed. R. Civ. P. 13(a)(1)(A) and thus, Swarm, as the defendant here, was compelled to assert its patent infringement claims against Juniper during the pendency of the Arizona Case.

1 filed its First Amended Complaint in the Arizona Case, alleging infringement of all three  
2 Patents-in-Suit, on August 26, 2022.

3 Swarm now brings permissive amended counterclaims with respect to the '777 Patent  
4 and moves the Court for leave to file amended counterclaims with respect to the '004 and '275  
5 Patents, as authorized by this Court. (Order at 2, 11). The FACC contains specific, plausible  
6 and concrete factual allegations that the Patents-in-Suit's claims are directed to patent-eligible  
7 subject matter under 35 U.S.C. § 101.

## 8 **II. BACKGROUND**

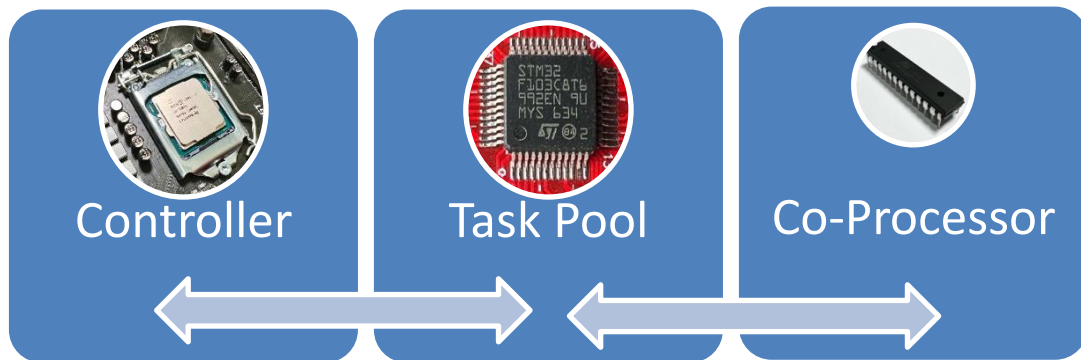
9 Swarm invented a new computer processing architecture that requires the  
10 unconventional operation and arrangement of the elements in a multiprocessor computing  
11 system. In combination, these elements provide an improvement to the functionality of the  
12 computer itself. Swarm's new architecture reconfigures and rearranges the interaction of  
13 computer components and addresses technology issues that only arise in a computer context.  
14 Simply put, Swarm's new architecture provides a new way for computer parts (*e.g.*, a  
15 processing system) to interact with each other by modifying existing parts (controller and co-  
16 processors) and interposing a new intermediary part (task pool) to manage communication  
17 among all the parts.

18 Prior to Swarm's invention, conventional multiprocessor computer systems included a  
19 central processor or controller ("CPU") and one or more co-processors (Fig. 1). As described  
20 in the Background section of the '004 Patent: "[t]he CPU partitions the computational  
21 requirements into tasks and distributes the tasks to co-processors. Completed threads are  
22 reported to the CPU ...." ('004 Patent, 1:57-60). This conventional approach is  
23 "disadvantageous in that a significant amount of CPU bandwidth is consumed by task  
24 distribution .... [and] co-processors often remain idle while waiting for a new task from the  
25 CPU." ('004 Patent, 1:62-2:3).



**FIG. 1** – Conventional Architecture

Swarm modified the arrangement of components (the architecture) of multiprocessing systems (Fig. 2) by interposing an intermediate device – the task pool – between the CPU and the co-processors. In addition, Swarm modified the way each of those components operate, both individually and in combination with each other. Swarm's invention both improves the functionality of a multiprocessor system and defines a new multiprocessor system architecture altogether.



**FIG. 2** – New Swarm Architecture

### **III. SUMMARY OF ARGUMENT**

Leave to amend should be freely granted absent undue delay, bad faith, undue prejudice, or futility. Swarm's FACC is not futile because it contains specific, plausible, concrete, and non-conclusory factual allegations that Swarm's Asserted Claims are directed to patent eligible subject matter under § 101, including but not limited to: a new multiprocessor architecture; improvements to the operation and functionality of a multiprocessor architecture itself; the unconventional operation of computer components; the unconventional arrangement of computer components; and a technological solution to a technological problem, as well as allegations of inventive concepts that amount to significantly more than an abstract idea. These

specific, plausible and concrete allegations are sufficient to survive dismissal under § 101 at the Rule 12(b)(6) stage. As a result, Swarm’s Motion should be granted.<sup>2</sup>

#### IV. LEGAL STANDARDS

##### A. Patent Eligibility under 35 U.S.C. § 101

Step one of *Alice*’s two-step framework asks “whether the claims at issue are directed to a patent-ineligible concept.” *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). The Federal Circuit has consistently held that some improvements in computer technology, such as “chip architecture[s] ... and the like,” when appropriately claimed, “are undoubtedly not abstract.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Furthermore, for patents in the field of computer-related technology, claims “directed to an improvement to computer functionality” or claims focused on “specific asserted improvement[s] in computer capabilities” are simply not abstract under *Alice* step one. *Id.* at 1335-36. When claims are “not directed to an abstract idea under step one of the *Alice* analysis, we do not need to proceed to step two of that analysis.” *Id.* at 1339.

The Federal Circuit’s decision in *Enfish* has been cited in more than 500 federal cases and is the *de facto* standard for determining the eligibility of computer-related patents.

*Enfish* presents *Alice*’s first step as a dichotomy:

Therefore, we find it relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis.

For that reason, the first step in the *Alice* inquiry in this case asks whether the focus of the claims is on the specific asserted improvement in computer capabilities ... or, instead, on a process that qualifies as an ‘abstract idea’ ....

*Id.* at 1335-36.

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<sup>2</sup>This Court already granted leave to amend the ’777 Patent in its August 1, 2022 Order. (Order at 11).



1 If, and only if, it is determined at step one that the claims are directed to an abstract  
2 idea, then step two invokes a “search for an “inventive concept” -- *i.e.*, an element or  
3 combination of elements ‘sufficient to ensure that the patent in practice amounts to  
4 significantly more than a patent upon the [ineligible concept] itself.’” *Alice*, 573 U.S. at 217-  
5 218 (quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 73  
6 (2012)). In *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir.  
7 2018), the Federal Circuit explained that “the second step of the *Alice* / *Mayo* test is satisfied  
8 when the claim limitations ‘involve more than performance of “well-understood, routine,  
9 [and] conventional activities previously known to the industry.”’ *Content Extraction*, 776 F.3d  
10 at 1347–48 (quoting *Alice*, 134 S.Ct. at 2359 ).” *Aatrix* at 1128 (quoting *Content Extraction*  
11 *and Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347-48 (Fed. Cir.  
12 2014, quoting *Alice*, 572 U.S. at 225). “Whether the claim elements or the claimed  
13 combination are well-understood, routine, conventional is a question of fact.” *Aatrix*, 882 F.3d  
14 at 1128 (*see also Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018), (“[w]hether  
15 something is well-understood, routine, and conventional to a skilled artisan at the time of the  
16 patent is a factual determination.”).

17 Patent eligibility can be determined at the Rule 12(b)(6) stage only when “there are no  
18 factual allegations that, taken as true, prevent resolving the eligibility question as a matter of  
19 law.” *Aatrix*, 882 F.3d at 1125. “Plausible factual allegations may preclude dismissing a case  
20 under Section 101 where, for example, ‘nothing on th[e] record ... refutes those allegations as  
21 a matter of law or justifies dismissal under Rule 12(b)(6).’” *FairWarning IP, LLC v. Iatric*  
22 *Sys., Inc.*, 839 F.3d 1089, 1097 (Fed. Cir. 2016) (quoting *BASCOM Glob. Internet Servs., Inc.*  
23 *v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016)). The *Aatrix* Court therefore  
24 concluded that “patentees who adequately allege their claims contain inventive concepts  
25 survive a § 101 eligibility analysis under Rule 12(b)(6).” *Aatrix*, 882 F.3d at 1126-27.

26 Importantly, the U.S. Supreme Court has warned against oversimplifying claims  
27 because “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature,  
28

1 natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. 66, at 71; *see also*, *McRO v. Bandai*  
 2 *Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir 2016) (stating “courts ‘must be careful  
 3 to avoid oversimplifying the claims’ by looking at them generally and failing to account for  
 4 the specific requirements of the claims.”); and *TECSEC, Inc. v. Adobe, Inc.*, 978 F.3d 1278,  
 5 1293 (Fed. Cir. 2020) (explaining that “characterizing the claims at ‘a high level of abstraction’  
 6 that is ‘untethered from the language of the claims all but ensures that the exceptions to § 101  
 7 swallow the rule.’”).

8 **B. Amendments to Pleadings under Rule 15(a)(2)**

9 Fed. R. Civ. P 15(a)(2) states that a party may “amend its pleading [with] the court’s  
 10 leave” and requires that “[t]he court should freely give leave when justice so requires.” The  
 11 Ninth Circuit has noted that this policy “is to be applied with extreme liberality.” *Eminence*  
 12 *Capital, LLC v. Aspeon, Inc.*, 316 F.3d 1048, 1051 (9th Cir. 2003). In *Foman v. Davis*, 371  
 13 U.S. 178 (1962), the Supreme Court provided the *Foman factors* for district courts to use in  
 14 determining whether to grant leave to amend, including undue delay, bad faith, failure to  
 15 previously cure, undue prejudice, and futility. *Id.* at 182. For all the reasons set forth below,  
 16 Swarm respectfully submits that the proposed FACC is not futile, and this Motion should  
 17 therefore be granted.

18 **V. ARGUMENT**

19 **A. The Asserted Claims are Directed to Patent Eligible Subject Matter**

20 The Federal Circuit has identified numerous circumstances in which computer-  
 21 implemented inventions, such as those at issue here, have been found to be patent eligible.  
 22 Swarm respectfully submits that the Asserted Claims of the Patents-in-Suit satisfy the  
 23 eligibility criteria for at least the following five (5) reasons.<sup>3</sup>  
 24  
 25

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26 <sup>3</sup> Significantly, although the Patents-in-Suit qualify for each and every one of the eligibility “safe  
 27 harbors” enumerated herein, it is enough for Swarm to satisfy any one of them to prevail on this  
 28 Motion, as well as any Motion to Dismiss which may be subsequently brought by Juniper.

1                   **1. The Asserted Claims are Directed to Multiprocessor Architectures.**

2                   In *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1301 (Fed. Cir. 2016),  
3 the Federal Circuit found patent eligibility where the claim “necessarily incorporates the  
4 invention's distributed architecture—an architecture providing a technological solution to a  
5 technological problem. This provides the requisite 'something more' than the performance of  
6 ‘well-understood, routine, [and] conventional activities previously known to the industry.’”

7                   Chip architecture can be described as “the structure, organization, and behavior of  
8 functional components within an integrated circuit (IC) or ‘chip.’” (Ex. R to FACC (hereinafter  
9 “Nelson Decl.”)<sup>4</sup> at ¶8). In like fashion, computer and multiprocessor architectures can be  
10 described as “the structure, organization, and behavior of functional components within a  
11 computer processing system.” (Nelson Decl. at ¶9).

12                   The FACC contains specific, plausible, concrete, and non-conclusory (fully supported)  
13 factual allegations that the Asserted Claims are directed to a new computing architecture. (Ex.  
14 1 ¶¶130-149). These allegations are supported by, *inter alia*, numerous specific citations to  
15 the claim language (including both independent and dependent claims of all three Patents-in-  
16 Suit), the patent specifications, the expert declarations of Dr. Nelson and Dr. Sylvester, and  
17 controlling Federal Circuit case law.

18                   By way of non-limiting example, every Asserted Claim recites multiprocessor  
19 architecture, including the specific unconventional structure, organization, and behavior of the  
20 functional components of the claimed multiprocessor systems. The recited components define  
21 the specific means and methods by which Swarm’s architecture improves the operation and  
22 functionality of a multiprocessor system. (*See, e.g.*, Ex. 1 ¶¶141-143).

23  
24                   **2. The Asserted Claims are Directed to Improvements to the Operation**  
25                   **and Functionality of Multiprocessor Systems.**

26  
27                   

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28                   <sup>4</sup> Dr. Nelson’s declaration (Ex. R to the FACC) is made and provided in support of both the FACC  
and this Motion.

1 The Federal Circuit has “repeatedly held that inventions which are directed to  
2 improvements in the functioning and operation of the computer are patent eligible.” *Aatrix*  
3 *Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1127 (Fed. Cir. 2018).

4 The FACC contains specific, plausible, concrete, and non-conclusory (fully supported)  
5 factual allegations that the Asserted Claims are directed to improvements to the operation and  
6 functionality of multiprocessor systems. (Ex. 1 ¶¶150-179). These allegations are supported  
7 by, *inter alia*, numerous specific citations to the claim language (including both the  
8 independent and dependent claims of all three Patents-in-Suit), the patent specifications, the  
9 expert declarations of Dr. Nelson and Dr. Sylvester, and controlling Federal Circuit case law.

10 The Patents-in-Suit are directed to specific improvements to the operation and  
11 functionality of the multiprocessor system itself. As set forth in ¶178 of the FACC, the  
12 improvements include:

13 a.) Reduced overhead burden on the CPU. (*See* Nelson Decl. ¶¶23, 24, 49) (*see also*  
14 ‘275 Patent, 9:7-21).

15 b.) The capacity of the CPU to manage co-processors is increased. (*See* Nelson  
16 Decl. ¶49) (*see also* ‘275 Patent, 11:37-50).

17 c.) The processing capacity of the co-processors is more fully exploited (*See* Nelson  
18 Decl. ¶¶26, 27, 50) (*see also* ‘275, Patent 9:7-21; 11:25-36).

19 d.) Increased flexibility and scalability wherein the system gains access to  
20 additional processing capacity via previously untapped processing resources (*See* Nelson  
21 Decl. ¶¶51, 53, 58) (*see also* ‘275 Patent, 1:45-48; 3:42-52; 10:61-11:6; and 12:5-39).

22 e.) Increased system reliability. (*See* Nelson Decl. ¶¶28, 55, 58) (*see also* ‘275  
23 Patent, 12:50-56).

24 f.) Increased speed and efficiency of the multiprocessor system. (*See* Nelson Decl.  
25 ¶¶23, 27, 56, 58) (*see also* ‘275 Patent, 1:45-48; 9:7-21).

26 Claim 1 of the ‘275 Patent recites “a controller configured to populate the task pool  
27 with a plurality of first tasks....” (‘275 Patent, 14:26-27). This limitation requires the controller  
28

1 and a new device (a task pool) to operate in an unconventional manner that results in  
 2 improvements to the functionality of the multiprocessor system itself. As noted in the FACC,  
 3 “[b]y configuring the CPU to deposit tasks into a task pool (instead of managing co-processors  
 4 directly) and by configuring the co-processors to retrieve tasks from the task pool without  
 5 communication with the CPU, *the overhead burden on the CPU is alleviated and the system’s*  
 6 *efficiency is improved.*” (Ex. 1 at ¶157; *see also* Nelson Decl. at ¶23) (emphasis added).

7  
 8 **3. The Asserted Claims Require Each of the Claimed Components to Operate in an Unconventional Manner.**

9 The Federal Circuit has held claims to be eligible when “generic components operate  
 10 in an unconventional manner to achieve an improvement in computer functionality.” *Amdocs*,  
 11 841 F.3d at 1300-1301. The Federal Circuit analyzes conventionality at both *Alice* step one  
 12 and step two. *See CareDx, Inc. v. Natera, Inc.*, 40 F.4th 1371, 1379 (Fed. Cir. 2022) (“we have  
 13 repeatedly analyzed conventionality at step one as well.”).

14 The FACC contains specific, plausible, concrete, and non-conclusory (fully supported)  
 15 factual allegations that the Asserted Claims require each of the claimed components to operate  
 16 in an unconventional manner. (Ex. 1 at ¶¶180-206). These allegations are supported by, *inter*  
 17 *alia*, numerous specific citations to the claim language (including both the independent and  
 18 dependent claims of all three Patents-in-Suit), the patent specifications, the expert declarations  
 19 of Dr. Nelson and Dr. Sylvester, and controlling Federal Circuit case law.

20 Unlike the claims in *Yu v. Apple Inc.*, 1 F.4<sup>th</sup> 1040, 1043 (Fed. Cir. 2021), Claim 1 of  
 21 the ‘004 Patent recites specific means and methods for implementing a non-conventional  
 22 interaction between a CPU and the task pool. Claim 1 of the ‘004 Patent further recites specific  
 23 means and methods whereby co-processors are configured to act in an unconventional manner  
 24 by retrieving tasks from the task pool as opposed to waiting to receive tasks from the CPU as  
 25 in conventional systems.

26 Similarly, Claim 1 of the ‘275 Patent recites specific means and methods for  
 27 implementing a non-conventional arrangement of a CPU and a task pool. Claim 1 of the ‘275  
 28

Patent further recites specific means and methods in which co-processors are configured to act in an unconventional manner by retrieving tasks from the task pool as opposed to receiving tasks from the CPU (as in conventional systems).

Claim 1 of the '777 Patent further recites specific means and methods in which solidarity cells are configured to act in an unconventional manner by retrieving tasks from the task pool as opposed to receiving tasks from the CPU (as in conventional systems):

a first solidarity cell in electronic communication with the task pool, *the first solidarity cell comprising a first agent configured to proactively retrieve, from the task pool, without requiring an instruction from the CPU, a matching task for the solidarity cell to process;* ('777 Patent, 7:44-49) (emphasis added).

The claimed task pool further acts in an unconventional manner in part because it is configured to update the CPU to reflect task completion, as opposed to conventional processing systems in which the co-processors update the CPU.

#### **4. The Asserted Claims Require an Unconventional Arrangement of Components Within a Multiprocessor Architecture.**

The *Amdocs* Court found eligibility when the claims solve a technology-based problem, “even with conventional, generic components, combined in an unconventional manner.” *Amdocs*, 841 F.3d at 1300.

The FACC contains specific, plausible, concrete, and non-conclusory (fully supported) factual allegations that the Asserted Claims require an unconventional arrangement of components within a multiprocessor architecture (Ex. 1 at ¶¶207-228). These allegations are supported by, *inter alia*, numerous specific citations to the claim language (including both the independent and dependent claims of all three Patents-in-Suit), the patent specifications, the expert declarations of Dr. Nelson and Dr. Sylvester, and controlling Federal Circuit case law.

For example, Claim 1 of the '275 Patent recites specific means and methods in which a processing system exhibits an unconventional arrangement which allows co-processors to retrieve tasks from the task pool as opposed to receiving tasks from the CPU (as in conventional arrangements):

1        *a first co-processor configured to successively: proactively*  
 2        *retrieve a first task from the task pool; process the first task;*  
 3        *generate first resulting data; and update the task pool to reflect*  
       *completion of the first task, all without any communication*  
       *between the first co-processor and the controller; ('275 Patent,*  
       *14:28-33) (emphasis added).*

4        Claim 1 of the '777 Patent similarly recites specific means and methods for  
 5        implementing a non-conventional arrangement of a CPU and a task pool:

6        An apparatus for parallel processing of a large computing  
 7        requirement, the apparatus comprising:

8        a central processing unit ("CPU");

9        a task pool in electronic communication with the CPU; and

10        ...

11        *wherein the CPU populates the task pool by dividing the*  
 12        *requirement into one or more threads and placing the threads in*  
 13        *the task pool, each thread comprising one or more tasks, and the*  
 14        *matching task being one of the tasks; ('777 Patent, 7:41-53)*  
       *(emphasis added).*

15        Claim 1 of the '777 Patent further recites specific means and methods for arranging  
 16        solidarity cells in an unconventional manner by retrieving tasks from the task as opposed to  
 17        receiving tasks from the CPU (as in conventional systems):

18        a first solidarity cell in electronic communication with the task  
 19        pool, *the first solidarity cell comprising a first agent configured to*  
 20        *proactively retrieve, from the task pool, without requiring an*  
 21        *instruction from the CPU, a matching task for the solidarity cell*  
 22        *to process; ('777 Patent, 7:44-49) (emphasis added).*

23        The various components of the Asserted Claims are further arranged in an  
 24        unconventional manner because the CPU's operating code is configured to cause the controller  
 25        to distribute tasks to a task pool, as opposed to conventional multi-processor arrangements in  
 26        which the controller distributes tasks directly to the co-processors. (*See Nelson Decl. ¶44) (see*  
 27        *also '275 Patent, 5:53-57).* The foregoing paragraphs confirm that the Patents-in-Suit satisfy  
 28        the *Amdocs* standard for eligibility by reciting claim elements arranged in an unconventional  
       manner.

5.        **The Asserted Claims Present Technological Solutions to**  
           **Technological Problems Specifically Arising in the Realm of**  
           **Multiprocessor Systems.**



1 The Federal Circuit has frequently “held that claims ‘necessarily rooted in computer  
2 technology in order to overcome a problem specifically arising in the realm of computer  
3 networks’ did not merely recite an abstract idea.” *Smart Sys. Innovations, LLC v. Chicago*  
4 *Transit Auth.*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (quoting *DDR Holdings, LLC v.*  
5 *Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)).

6 The FACC contains specific, plausible, concrete, and non-conclusory (fully supported)  
7 factual allegations that the Asserted Claims present technological solutions to technological  
8 problems specifically arising in the realm of multiprocessor systems. (Ex. 1 at ¶¶229-238).  
9 These allegations are supported by, *inter alia*, numerous specific citations to the claim  
10 language (including both the independent and dependent claims of all three Patents-in-Suit),  
11 the patent specifications, the expert declarations of Dr. Nelson and Dr. Sylvester, and  
12 controlling Federal Circuit case law.

13 The Patents-in-Suit are directed to solutions to a number of technological problems.  
14 As set forth in ¶231 of the FACC, these solutions include:

- 15 a) Reduced overhead burden on the CPU. (*See* Nelson Decl. ¶¶23, 24, 49)  
16 (*see also* ’275 Patent, 9:7-21).
- 17 b) The capacity of the CPU to manage co-processors is increased. (*See*  
18 Nelson Decl. ¶49) (*see also* ’275 Patent, 11:37-50).
- 19 c) The processing capacity of the co-processors is more fully exploited  
20 (*See* Nelson Decl. ¶¶26, 27, 50) (*see also* ’275, Patent 9:7-21; 11:25-36).
- 21 d) Increased flexibility and scalability wherein the system gains access to  
22 additional processing capacity via previously untapped processing resources (*See* Nelson  
23 Decl. ¶¶51, 53, 58) (*see also* ’275 Patent, 1:45-48; 3:42-52; 10:61-11:6; and 12:5-39).
- 24 e) Increased system reliability. (*See* Nelson Decl. ¶¶28, 55, 58) (*See also*  
25 ’275 Patent, 12:50-56).
- 26 f) Increased speed and efficiency of the multiprocessor system. (*See*  
27 Nelson Decl. ¶¶23, 27, 56, 58) (*see also* ’275 Patent, 1:45-48; 9:7-21).



**B. Leave to Amend Should be Granted for the Additional Reason that the FACC Includes Specific Allegations of Inventive Concepts**

In addition to satisfying the foregoing eligibility criteria under *Alice* step one, the FACC alleges that the Asserted Claims also recite numerous inventive concepts under *Alice* step two. (Ex. 1 at ¶¶257-385). These allegations are supported by, *inter alia*, numerous specific citations to the claim language (including both the independent and dependent claims of all three Patents-in-Suit), the patent specifications, the expert declarations of Dr. Nelson and Dr. Sylvester, and controlling Federal Circuit case law.

The following non-limiting examples of inventive concepts are alleged in the FACC:<sup>5</sup>

1. wherein the processing system is configured to dynamically accept the first co-processor, the second co-processor, and an additional co-processor into the processing system on a plug-and-play basis without any communication with the controller. ('004 Patent, 14:28-32);
2. wherein the collaborative intelligence system is configured to dynamically accept the first co-processor, the second co-processor, and an additional co-processor into the processing system on a plug-and-play basis without any communication with the controller ('275 Patent, 14:40-44);
3. dynamically accepting co-processors on a plug-and-play basis improves the operation of a computer network by integrating co-processors with different instruction set architectures into the same network. (See '004 Patent, 3:43-44) (see also Nelson Decl. ¶¶17, 24, 38, 51, 53);
4. dynamically accepting co-processors on a plug-and-play basis improves the operation of a computer network by integrating co-processors with different instruction set architectures into the same network. ('275 Patent, 3:42-52). (See Nelson Decl. ¶¶17, 24, 38, 51, 53);
5. wherein the first co-processor is configured to modify a task within the task pool. ('004 Patent, 16:13-15);
6. the task pool is configured to notify the controller upon completion of the first task. ('004 Patent, 16:23-27);
7. wherein the first co-processor is configured to deposit a new task into the task pool. ('004 Patent, 16:33-35);

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<sup>5</sup> The FACC specifically asserts infringement of 37 claims (all of the Asserted Claims), and the discussion of these claims in the FACC thoroughly distinguishes the claims from one another.

- 1           8.     wherein the first co-processor is configured to determine  
2           when it has available processing capacity, and to dispatch  
3           the first agent to the task pool in response to the  
4           determination. ('275 Patent, 14:66-15:3);
- 5           9.     wherein neither the controller nor the task pool are  
6           incorporated into either the first or second co-processor.  
7           ('275 Patent, 16:21-23);
- 8           10.    wherein each task comprises a descriptor, the descriptor  
9           containing at least:  
10           a function to be executed; and  
11           a memory location of data upon which the function  
12           is to be executed; ('777 Patent, 7:54-58);
- 13          11.    wherein the first agent is a data frame comprising:  
14           a source address, a destination address and a  
15           payload; ('777 Patent, 7:59-60);
- 16          12.    wherein the first agent retrieves the matching task by:  
17           being dispatched by the first solidarity cell to the  
18           task pool, during which the source address is the first  
19           solidarity cell's address, the destination address is  
20           the task pool's address, and the payload comprises a  
21           list of functions the first solidarity cell is configured  
22           to perform; ('777 Patent. 7:61-67);
- 23          13.    returning to the first solidarity cell, during which the source  
24           address is the task pool's address, the destination address is  
25           the first solidarity cell's address, and the payload comprises  
26           the descriptor of the matching task. ('777 Patent, 8:4-8);
- 27          14.    wherein the tasks each comprise a task type selected from  
28           a set of task types, and wherein the first solidarity cell is  
            configured to perform tasks of one or more of the task  
            types. ('777 Patent, 8:11-14);
15.    wherein the matching task is a task that is ready to be  
            processed and has a task type that the first solidarity cell  
            can perform. ('777 Patent, 8:15-18);
16.    wherein the descriptor further contains a memory location  
            where processed data is to be stored. ('777 Patent, 8:32-34);
17.    wherein the descriptor is a data structure and the task  
            contains a reference to the memory location of the  
            descriptor. ('777 Patent, 8:35-37);
18.    wherein the task pool occupies a region of physical  
            memory. ('777 Patent, 8:38-39); and

19. wherein the task pool is disposed in a hardware block dedicated to the task pool.” (’777 Patent, 8:40-41).

Accordingly, the Asserted Claims should be found eligible under § 101 for the reasons discussed above with respect to *Alice* step two, as well as *Alice* step one.

## VI. CONCLUSION

Leave to amend should be granted because the FACC includes specific, plausible, concrete, and non-conclusory factual allegations that Swarm’s Asserted Claims are directed to patent eligible subject matter under § 101. Moreover, at the 12(b)(6) stage, all allegations must be construed in the light most favorable to Swarm. *Yagman v. Garcetti*, 852 F.3d 859, 863 (9<sup>th</sup> Cir. 2017). In addition, as set forth in detail above, all of the Asserted Claims are independently eligible under both steps one and two of the *Alice* framework.

Under Fed. R. Civ. P. Rule 15(a)(2), a district court shall grant leave to amend freely, when justice so requires. (*See Owens v. Kaiser Foundation Health Plan, Inc.*, 244 F.3d 708, 712 (9<sup>th</sup> Cir. 2001) (“We have stated that ‘this policy is to be applied with extreme liberality.’”) (quoting *Morongo Band of Mission Indians v. Rose*, 893 F.2d 1074, 1079 (9<sup>th</sup> Cir. 1990)). Therefore, Swarm respectfully requests this Court grant its Motion and enter the proposed FACC.

DATED this 6th day of September 2022.

**BEUS GILBERT McGRODER PLLC**

By /s/ Michael K. Kelly

Leo R. Beus  
Michael K. Kelly  
Christine N. Jones  
Daniel J. Anderson  
701 North 44th Street  
Phoenix, AZ 85008-6504  
(480) 429-3015  
Attorneys for Plaintiff

**CERTIFICATE OF SERVICE**

I hereby certify that on September 6<sup>th</sup>, 2022, I electronically transmitted the foregoing document to the Clerk's Office using the ECF System for filing. A copy of the foregoing was electronically provided by the ECF System to all counsel of record.

/s/ Suneel Jain  
Suneel Jain

**EXHIBIT LIST**

<u>Exhibit</u>	<u>Title</u>
1.	Redlined Swarm Technology LLC's Answer to First Amended Complaint, and First Amended Counterclaims for Patent Infringement Against Juniper Networks, Inc. and Apstra, Inc.
2.	Clean Answer to First Amended Complaint, and First Amended Counterclaims for Patent Infringement Against Juniper Networks, Inc. and Apstra, Inc.